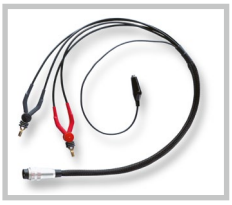
HAMEG Instruments
A Rohde&Schwarz Company

25kHz LCR-Meter
HM8018

HM8018

Option HZ19 SMD Test Tweezers

Option HZ18 Kelvin Test Lead



Mainframe HM8001-2 required for Operation

- ☑ Measurement Functions: L, C, R, Θ, Q/D, |Z|
- ☑ Basic Accuracy 0.2%
- ☑ 5 Measurement Frequencies: 100Hz, 120Hz, 1kHz, 10kHz, 25kHz
- ☑ Max. Resolution: 0.001Ω, 0.001pF, 0.01µH
- ☑ 2- and 4-Wire Measurement, parallel and serial Mode

25 kHz-LCR-Meter HM8018

All data valid at 23 °C after 30 minutes warm-up.

Measurement functions

Measuring modes:	R, L, C, Θ, Q/D, |Z|
Equivalent circuits:	serial, parallel
Measuring method:	2-wire, 4-wire
Measuring ranges:	R: 0.001 Ω...99.9 MΩ C: 0.001 pF...99.9 mF L: 0.01 µH...9,999 H Q: 0.0001...99.9 D: 0.0001...9.9999 Θ: (-180.00°)...(+180.00°)
Basic accuracy:	0.2 %
Measuring frequencies:	100 Hz, 120 Hz, 1 kHz, 10 kHz, 25 kHz
Freq. Accuracy:	±100 ppm (except 120 Hz: 120.2 Hz ±100 ppm)
Measuring voltage:	0.5 V_{rms} ±10 % (unloaded)
Measuring rate:	2 measurements/second
Range changing:	automatic, manual
DC Bias voltage:	1 V ±10 %
Zero setting:	Open/short circuit compensation
Compensation limits:	Short: R <10 Ω Z <15 Ω Open: Z >10 kΩ

Measurement accuracy

with D <0.1 or Q >10	C: $A_e = A_f \times A_d (1 + C_x/C_{max} + C_{min}/C_x)$ L: $A_e = A_f \times A_d (1 + L_x/L_{max} + L_{min}/L_x)$ Z: $A_e = A_f (1 + Z_x/Z_{max} + Z_{min}/Z_x)$ R: $A_e = A_f \times A_d (1 + R_x/R_{max} + R_{min}/R_x)$ $A_d = 1$ for D <0.1
with D ≥0.1	$A_d = \sqrt{1 + D^2}$
with the parameters	C_x, L_x, Z_x, R_x = Measurement value A_f = 0.2 % at f = 100 Hz, 120 Hz, 1 kHz A_f = 0.3 % at f = 10 kHz A_f = 0.5 % at f = 25 kHz

Parameter	Auto Range
C_{max}	160 µF/f (f in kHz)
C_{min}	53 pF/f (f in kHz)
L_{max}	480 H/f (f in kHz)
L_{min}	0.16 mH/f (f in kHz)
Z_{max}, R_{max}	3 MΩ
Z_{min}, R_{min}	0.5 Ω

Dissipation factor accuracy: $D_e = \pm \frac{A_e}{100}$

Quality factor accuracy: $Q_e = \frac{Q_x^2 \cdot D_e}{1 \pm D_x \cdot D_e}$

Phase angle accuracy: $\Theta_e = \frac{180}{\pi} \cdot \frac{A_e}{100}$

Display

5-digits 7-Segment LEDs with sign

Display Parameters:

Value
% Value
Deviation
% Offset
} Calculation from measurement value and reference value stored

Miscellaneous

The inputs are short-circuit-proof and overvoltage protected up to 100 V_{dc} with a maximum energy consumption of 1 J.
One configuration can be saved.

Power supply (from mainframe):	+5 V/300 mA +5.2 V/50 mA -5.2 V/50 mA (∑ = 2 W)
Operating temperature:	+5...+40 °C
Storage temperature:	-20...+70 °C
Rel. humidity:	5...80 % (non condensing)
Dimensions (W x H x D) **(without 22-pole flat plug):**	135 x 68 x 228 mm
Weight:	approx. 0.5 kg

Included in delivery: Operating manual, CD

Recommended accessories:

HZ10S	5 x silicone test lead (measurement connection in black)
HZ10R	5 x silicone test lead (measurement connection in red)
HZ10B	5 x silicone test lead (measurement connection in blue)
HZ17	Kelvin test lead (4-wire) with probe tips
HZ18	Kelvin test lead (4-wire) with gold plated contacts
HZ19	Kelvin test lead (4-wire) with SMD-Test-tweezers

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